California Cooperative
Snow Surveys
Bulletin 120-1-04

State of California
The Resources Agency

Department of
Water Resources

Water Conditions in California

Report 1 February 1, 2004

Arnold Schwarzenegger
Governor
State of California

Mike Chrisman
Secretary for Resources
The Resources Agency

Linda S. Adams
Interim Director
Department of Water Resources

STATE OF CALIFORNIA
Arnold Schwarzenegger, Governor

THE RESOURCES AGENCY
Mike Chrisman, Secretary for Resources

Department of Water Resources
Linda S. Adams
Interim Director

Tom Glover
Deputy Director

Stephen W. Verigin
Acting Chief Deputy Director

Gerald E. Johns
Acting Deputy Director

L. Lucinda Chipponeri
Assistant Director for Legislation

Peggy Bernardy
Chief Counsel

Division of Flood Management

Stein Buer.....Chief, Division of Flood Management
Maury Roos.....State Hydrologist
Gary Hester.....Chief, Hydrology and Flood Operations
Gary B. Bardini.....Chief Forecaster

Prepared by

Frank Gehrke.....Chief, Snow Surveys
Dave Rizzardo.....Engineer, W.R.
John King.....Engineer, W.R.
Mary Jimenez.....Engineer, W.R.
Matt Winston.....Associate Meteorologist, W.R.
Stephen Nemeth.....Assistant Engineering Specialist, W.R.
David M. Hart.....Water Resources Engineering Associate

COOPERATING AGENCIES

Public Agencies
Buena Vista Water Storage District
East Bay Municipal Utility District
Eldorado Irrigation District
Friant Water Users Association
Kaweah Delta Water Conservation District
Kern Delta Water District
Kings River Conservation District
Lower Tule River Irrigation District
Merced Irrigation District
Modesto Irrigation District
Nevada Irrigation District
North Kern Water Storage District
Northern California Power Agency
Oakdale Irrigation District
Omochumne-Hartnell Water District
Oroville-Wyandotte Irrigation District
Placer County Water Agency
Sacramento Municipal Utility District
San Joaquin Exchange Contractors Water Association
South San Joaquin Irrigation District
Tri-Dam Project
Truckee River Basin Water Commission
Tulare Lake Basin Water Storage District
Turlock Irrigation District
Yuba County Water Agency

Private Organizations
J.G. Boswell Company
Kaweah and St. Johns River Association
Kings River Water Association
Tule River Association
State Water Project Contractors

Municipalities
City of Bakersfield Water Department
City of Los Angeles Department of Water and Power
City and County of San Francisco Hetch Hetchy Water and Power

State Agencies
University of California
Central Sierra Snow Laboratory
Scripps Institution of Oceanography
California Department of Forestry & Fire Protection
California Department of Water Resources

Public Utilities
Pacific Gas and Electric Company
Southern California Edison Company

Federal Agencies
U.S. Department of Agriculture
Forest Service(14 National Forests)
Natural Resource Conservation Service
U.S. Department of Commerce
National Weather Service
U.S. Department of Interior
Bureau of Reclamation
Geological Survey, Water Resources
National Park Service(3 National Parks)
U.S. Department of Army
Corps of Engineers

Other Cooperative Programs
Nevada Cooperative Snow Surveys
Oregon Cooperative Snow Surveys

Summary of Water Conditions

February 1, 2004

Water year 2004 has been remarkably similar to last year, although not as wet. December precipitation was much above average again, followed by a well below average January. This season too has been wetter in the north, drier in the south. But there are important differences. The winter storms this year have been cooler than last year. As a result, runoff so far is below average, but the snowpack is above average. As of now forecasts call for slightly below average snowmelt overall, but a subnormal water year. About 40 percent of the rainy season is left, so there is still a large range in possible outcomes.

Forecasts of April through July runoff are near 90 percent overall, but less in the south. Water year forecasts, assuming normal weather for the remainder of the season are lower at 80 percent.

Snowpack water content is 115 percent of average compared to 100 percent last year. The snowpack is well above average in northern regions, but near average in the southern Sierra. The pack is nearly 75 percent of the April 1 average, which is the normal date of maximum accumulation. Percentages tend to be a little higher in the lower elevation snow zone which may lead to more early runoff when the pack melts.

Precipitation from October 1 through January 31 was about 85 percent of average, appreciably less than the 110 percent at this time last year. Southern California percentages are quite low while the North Coast, Sacramento, and San Francisco Bay regions are near average. December had an estimated 150 percent of average but again, like last year, January precipitation was only about 55 percent.

Runoff so far is about 75 percent of average, compared to 120 percent one year ago. There was enough flow in early January to produce minor overflow into the Sacramento Valley bypass floodway system and to raise a couple of northern California reservoirs to flood control status. Estimated runoff of the eight major rivers of the Sacramento and San Joaquin River regions during January was 1.9 million acre feet.

Reservoir storage is about the same as last year at 100 percent of average. Regional percentages range from 110 percent in the Sacramento Region to a low 35 percent in the North Lahontan Region. The latter percentage is due to the current low water level of Lake Tahoe.

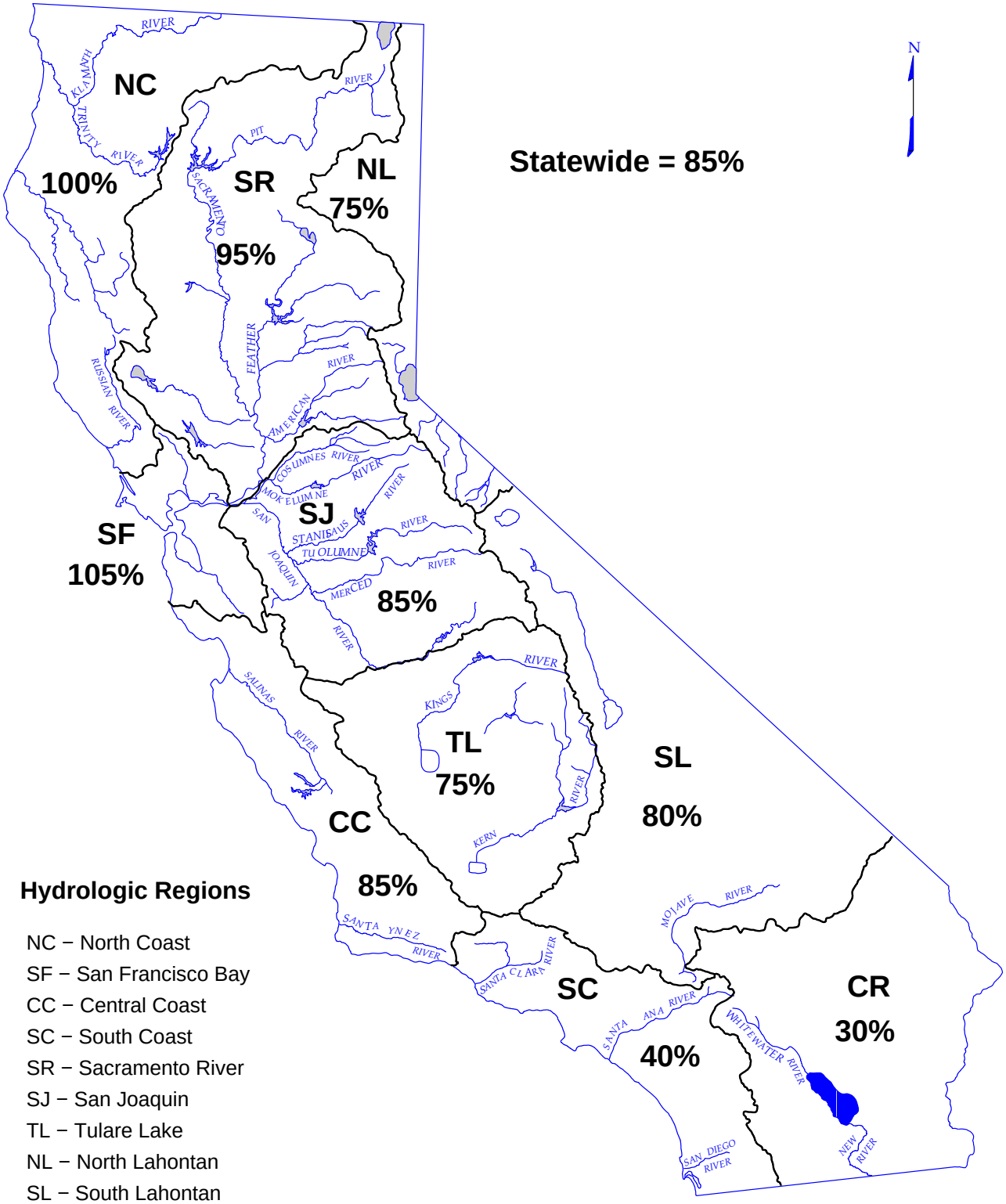
SUMMARY OF WATER CONDITIONS
IN PERCENT OF AVERAGE

HYDROLOGIC REGION	PRECIPITATION OCTOBER 1 TO DATE	FEBRUARY 1 SNOW WATER CONTENT	FEBRUARY 1 RESERVOIR STORAGE	RUNOFF OCTOBER 1 TO DATE	APR-JULY RUNOFF FORECAST	WATER YEAR RUNOFF FORECAST
NORTH COAST	100	140	105	85	105	95
SAN FRANCISCO BAY	105	--	90	85	--	--
CENTRAL COAST	85	--	85	35	--	--
SOUTH COAST	40	--	85	25	--	--
SACRAMENTO RIVER	95	125	110	75	90	85
SAN JOAQUIN RIVER	85	110	105	45	90	75
TULARE LAKE	75	100	70	50	85	75
NORTH LAHONTAN	75	110	35	55	85	75
SOUTH LAHONTAN	80	100	95	65	90	80
COLORADO RIVER-DESERT	30	--	--	--	--	--
STATEWIDE	85	115	100	75	90	80

SEASONAL PRECIPITATION

IN PERCENT OF AVERAGE TO DATE

October 1, 2003 through January 31, 2004

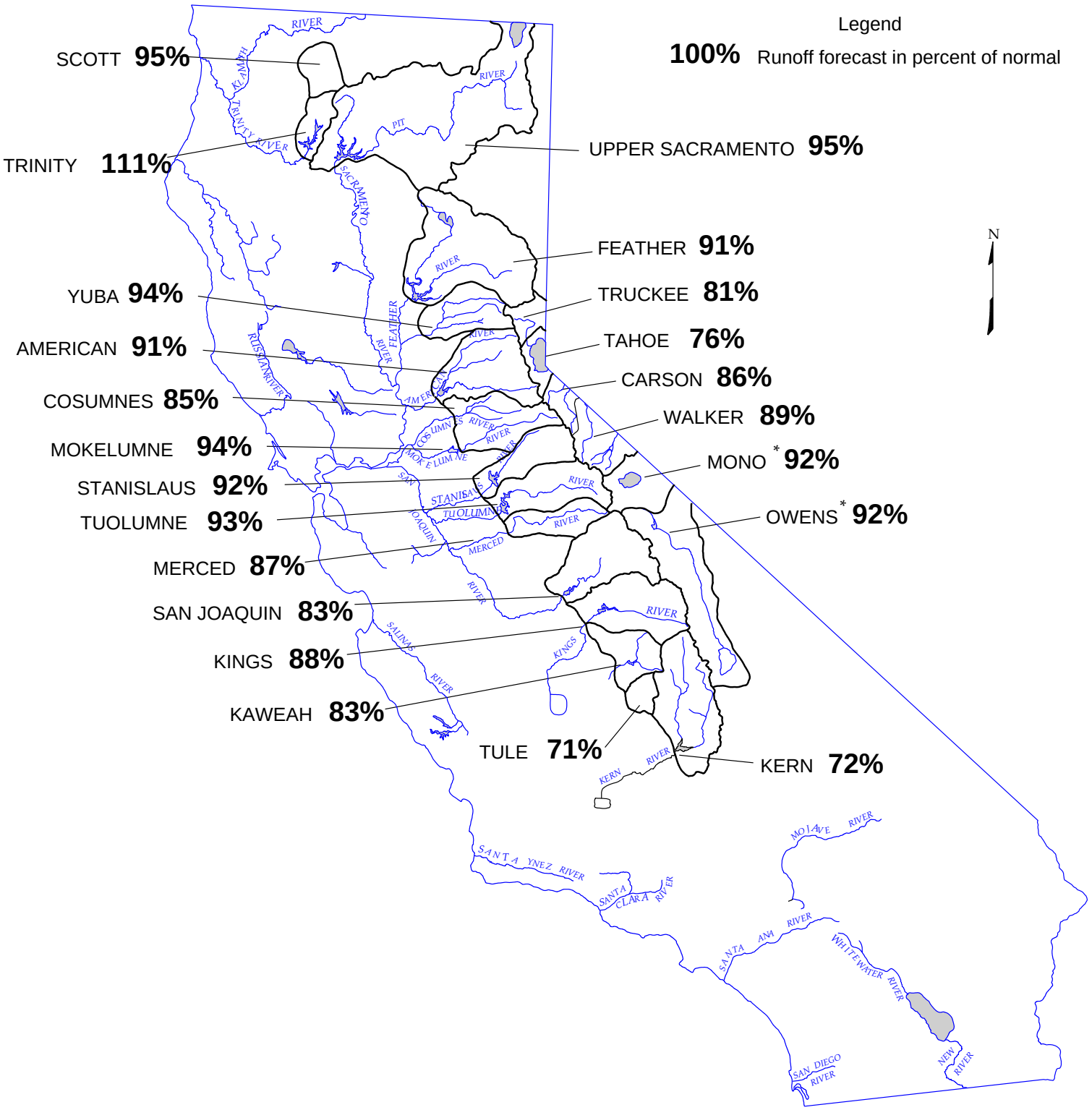


Hydrologic Regions

NC − North Coast
SF − San Francisco Bay
CC − Central Coast
SC − South Coast
SR − Sacramento River
SJ − San Joaquin
TL − Tulare Lake
NL − North Lahontan
SL − South Lahontan
CR − Colorado River−Desert

WATER YEAR IS OCTOBER 1 THROUGH SEPTEMBER 30

DEPARTMENT OF WATER RESOURCES
CALIFORNIA COOPERATIVE SNOW SURVEYS
FORECAST OF APRIL – JULY
UNIMPAIRED SNOWMELT RUNOFF
February 1, 2004



* FORECAST BY DEPARTMENT OF WATER AND POWER, CITY OF LOS ANGLES

FEBRUARY 1, 2004 FORECASTS
APRIL-JULY UNIMPAIRED RUNOFF

HYDROLOGIC REGION and Watershed	Unimpaired Runoff in 1,000 Acre-Feet (1) HISTORICAL 50 Yr Avg (2)	Max of Record	Min of Record	FORECAST Apr-Jul Forecasts	Pct of Avg	80 % Probability Range (1)
SACRAMENTO RIVER						
Upper Sacramento River						
Sacramento River at Delta above Shasta Lake (3)	299	711	39	320	107%	
McCloud River above Shasta Lake	400	850	185	400	100%	
Pit River near Montgomery Creek + Squaw Creek	1,090	2,098	480	1,000	92%	
Total Inflow to Shasta Lake	1,849	3,525	726	**1,760**	95%	1,200 - 2,660
Sacramento River above Bend Bridge, near Red Bluff	2,521	5,075	943	**2,350**	93%	1,470 - 3,670
Feather River						
Feather River at Lake Almanor near Prattville (3)	333	675	120	300	90%	
North Fork at Pulga (3)	1,028	2,416	243	930	90%	
Middle Fork near Clio (4)	86	518	4	75	87%	
South Fork at Ponderosa Dam (3)	110	267	13	100	91%	
Feather River at Oroville	1,870	4,676	392	**1,700**	91%	1,100 - 2,860
Yuba River						
North Yuba below Goodyears Bar (3)	286	647	51	260	91%	
Inflow to Jackson Mdws and Bowman Reservoirs (3)	112	236	25	105	94%	
South Yuba at Langs Crossing (3)	233	481	57	210	90%	
Yuba River near Smartville plus Deer Creek	1,044	2,424	200	**980**	94%	590 - 1,640
American River						
North Fork at North Fork Dam (3)	262	716	43	230	88%	
Middle Fork near Auburn (3)	522	1,406	100	480	92%	
Silver Creek Below Camino Diversion Dam (3)	173	386	37	160	92%	
American River below Folsom Lake	1,282	3,074	229	**1,170**	91%	670 - 2,070
SAN JOAQUIN RIVER						
Cosumnes River at Michigan Bar	130	363	8	**110**	85%	50 - 240
Mokelumne River						
North Fork near West Point (5)	437	829	104	400	92%	
Total Inflow to Pardee Reservoir	469	1,065	102	**440**	94%	300 - 710
Stanislaus River						
Middle Fork below Beardsley Dam (3)	334	702	64	310	93%	
North Fork Inflow to McKays Point Dam (3)	224	503	34	210	94%	
Stanislaus River below Goodwin Reservoir (7)	716	1,710	116	**660**	92%	430 - 1,070
Tuolumne River						
Cherry Creek & Eleanor Creek near Hetch Hetchy (3)	322	727	97	290	90%	
Tuolumme River near Hetch Hetchy (3)	606	1,392	153	570	94%	
Tuolumne River below La Grange Reservoir (7)	1,230	2,682	301	**1,140**	93%	790 - 1,740
Merced River						
Merced River at Pohono Bridge (3)	362	888	80	330	91%	
Merced River below Merced Falls (7)	633	1,587	123	**550**	87%	340 - 900
San Joaquin River						
San Joaquin River at Mammoth Pool (6)	1,014	2,279	235	850	84%	
Big Creek below Huntington Lake (6)	95	264	11	75	79%	
South Fork near Florence Lake (6)	202	511	58	170	84%	
San Joaquin River inflow to Millerton Lake	1,262	3,355	262	**1,050**	83%	650 - 1,700
TULARE LAKE						
Kings River						
North Fork Kings River near Cliff Camp (3)	239	565	50	210	88%	
Kings River below Pine Flat Reservoir	1,234	3,113	274	**1,080**	88%	640 - 1,680
Kaweah River below Terminus Reservoir	290	814	62	**240**	83%	130 - 425
Tule River below Lake Success	65	259	2	**46**	71%	22 - 106
Kern River						
Kern River near Kernville (3)	373	1,203	83	280	75%	
Kern River inflow to Lake Isabella	470	1,657	84	**340**	72%	160 - 700

(1) See inside back cover for definition

(2) All 50 year averages are based on years 1951-2000 unless otherwise noted

(3) 50 year average based on years 1941-90

(4) 44 year average based on years 1936-79

(5) 36 year average based on years 1936-72

(6) 45 year average based on years 1936-81

FEBRUARY 1, 2004 FORECASTS
WATER YEAR UNIMPAIRED RUNOFF

Unimpaired Runoff in 1,000 Acre-Feet (1)

HISTORICAL			DISTRIBUTION								FORECAST		
50 Yr Avg (2)	Max of Record	Min of Record	Oct Thru Jan*	Feb	Mar	Apr	May	Jun	Jul	Aug & Sep	Water Year Forecasts	Pct of Avg	80 % Probability Range (1)
888	1,965	165											
1,234	2,353	557											
3,217	5,150	1,484											
6,194	10,796	2,479	1,810	820	920	700	520	310	230	425	**5,735**	93%	4,380 - 7,950
8,990	17,180	3,294	2,940	1,060	1,200	890	730	420	310	530	**8,080**	90%	6,080 - 11,310
780	1,269	366											
2,417	4,400	666											
219	637	24											
291	562	32											
4,775	9,492	994	890	550	690	720	580	270	130	190	**4,020**	84%	2,850 - 6,000
564	1,056	102											
181	292	30											
379	565	98											
2,459	4,926	369	380	260	320	380	400	165	35	40	**1,980**	81%	1,420 - 2,980
616	1,234	66											
1,070	2,575	144											
318	705	59											
2,830	6,382	349	300	270	360	440	525	170	35	20	**2,120**	75%	1,380 - 3,310
409	1,253	20	38	25	45	65	33	10	2	2	**220**	54%	130 - 355
626	1,009	197											
774	1,800	129	60	55	80	120	195	110	15	5	**640**	83%	450 - 1,000
471	929	88											
1,196	2,952	155	100	55	100	205	280	140	35	15	**930**	78%	670 - 1,390
461	1,147	123											
770	1,661	258											
1,974	4,631	383	170	85	150	280	440	340	80	25	**1,570**	80%	1,170 - 2,420
461	1,020	92											
1,014	2,787	150	65	50	70	140	230	150	30	15	**750**	74%	540 - 1,200
1,337	2,964	308											
112	298	14											
248	653	71											
1,851	4,642	362	115	45	85	200	420	310	120	45	**1,340**	72%	880 - 2,050
284	607	58											
1,736	4,287	386	100	50	95	200	430	320	130	45	**1,370**	79%	900 - 2,160
460	1,402	94	34	25	35	60	110	60	10	6	**340**	74%	200 - 500
153	615	16	15	11	16	21	16	7	2	2	**90**	59%	60 - 140
558	1,577	163											
741	2,318	175	60	30	45	70	130	100	40	30	**505**	68%	420 - 900

* Unimpaired runoff in prior months based on measured flows

(7) Forecast point names based on USGS gage names. Stanislaus below Goodwin also known as inflow to New Melones, Tuolumne River below La Grange also known as inflow to Don Pedro, Merced River below Merced Falls also known as inflow to McClure.

FEBRUARY 1, 2004 FORECASTS
APRIL-JULY UNIMPAIRED RUNOFF

HYDROLOGIC REGION and Watershed	Apr-Jul Unimpaired Runoff in 1,000 Acre-Feet (1) HISTORICAL 50 Yr Avg (2)	Max of Record	Min of Record	FORECAST Apr-Jul Forecasts	Pct of Avg
NORTH COAST					
Trinity River					
Trinity River at Lewiston Lake (3)	660	1,593	80	**730**	111%
Scott River					
Scott River near Fort Jones	200	400	30	**190**	95%
Klamath River					
Total inflow to Upper Klamath Lake (4)	515	939	149	**425**	83%
NORTH LAHONTAN					
Truckee River					
Lake Tahoe to Farad accretions	272	713	52	**220**	81%
Lake Tahoe Rise (assuming gates closed, in ft)	1.4	5.4	0.2	**1.1**	76%
Carson River					
West Fork Carson River at Woodfords	55	135	12	**50**	90%
East Fork Carson River near Gardnerville	190	407	43	**160**	84%
Walker River					
West Walker River below Little Walker, near Coleville	153	330	35	**140**	91%
East Walker River near Bridgeport	65	209	7	**55**	84%
SOUTH LAHONTAN					
Owens River					
Total tributary flow to Owens River (5)	235	579	96	**217**	92%

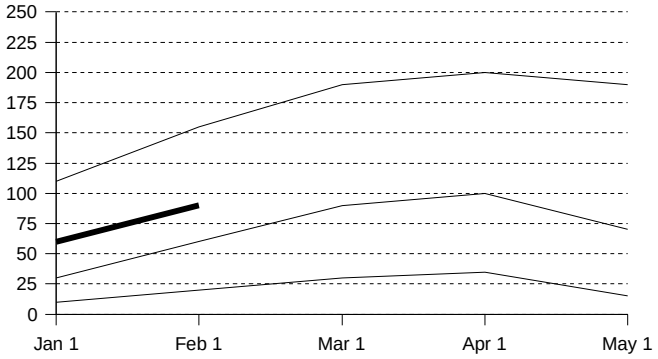
FEBRUARY 1, 2004 FORECASTS
WATER YEAR UNIMPAIRED RUNOFF

HYDROLOGIC REGION and Watershed	Water Year Unimpaired Runoff in 1,000 Acre-Feet (1) HISTORICAL 50 Yr Avg (2)	Max of Record	Min of Record	FORECAST Water Year Forecasts	Pct of Avg	80 % Probability Range (1)
NORTH COAST						
Trinity River						
Trinity River at Lewiston Lake (3)	1,411	2,990	200	1440	102%	1050 - 2150

(1) See inside back cover for definition
(2) All 50 year averages are based on years 1951-2000 unless otherwise noted
(3) Forecast by DWR and National Weather Service California-Nevada River Forecast Center.
(4) Forecast by U.S. Natural Resources Conservation Service and National Weather Service California-Nevada River Forecast Center, April through September forecast, 30 year average based on years 1971-2000.
(5) Forecast by Department of Water and Power, City of Los Angeles, average based on years 1951-2000.

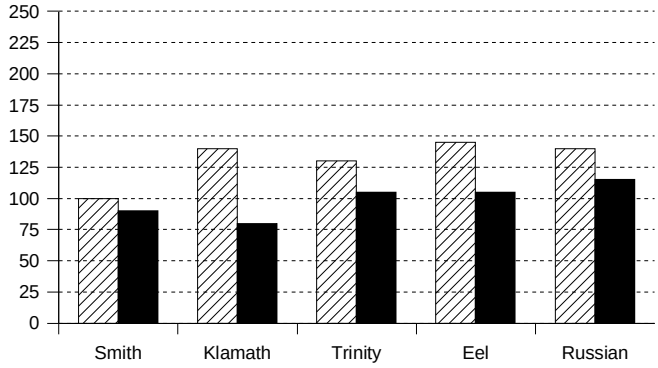
Snowpack Accumulation

Water Content in % of April 1 Average



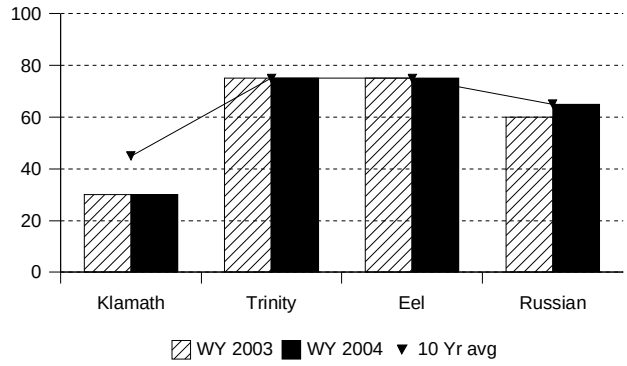
Precipitation

October 1 to date in % of Average



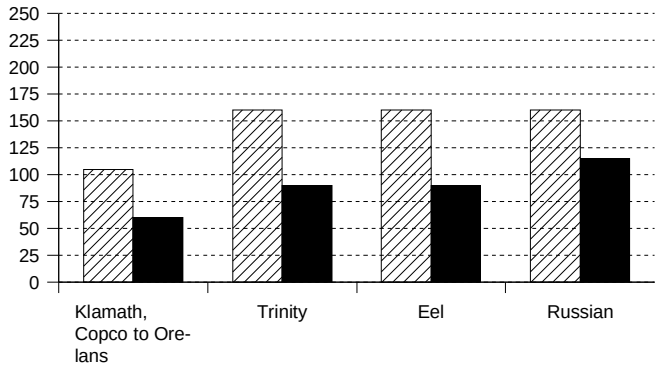
Reservoir Storage

Contents of major reservoirs in % of capacity



Runoff

October 1 to date in % of average



NORTH COAST REGION

SNOWPACK- First of the month measurements made at 10 snow courses indicate an area wide snow water equivalent of 26 inches. This is 140 percent of the February 1 average and 90 percent of the seasonal (April 1) average. Last year at this time the pack was holding 29 inches of water.

PRECIPITATION - Seasonal precipitation (October 1 through the end of last month) on this area was 100 percent of normal. Precipitation last month was about 75 percent of the monthly average. Seasonal precipitation at this time last year stood at 130 percent of normal.

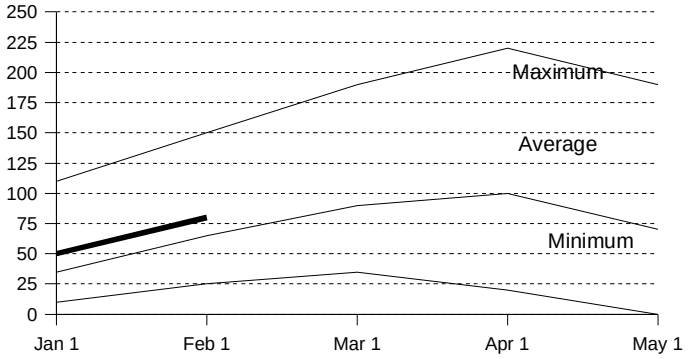
RESERVOIR STORAGE- First of the month storage in 7 reservoirs was 2.3 million acre-feet which is 105 percent of average. About 75 percent of available capacity was being used. Storage in these reservoirs at this time last year was 105 percent of average.

RUNOFF -Seasonal runoff of streams draining the area totaled 4.6 million acre-feet which is 85 percent of the average for this period. Last year, runoff for the same period was 140 percent of average.

SACRAMENTO RIVER REGION

Snowpack Accumulation

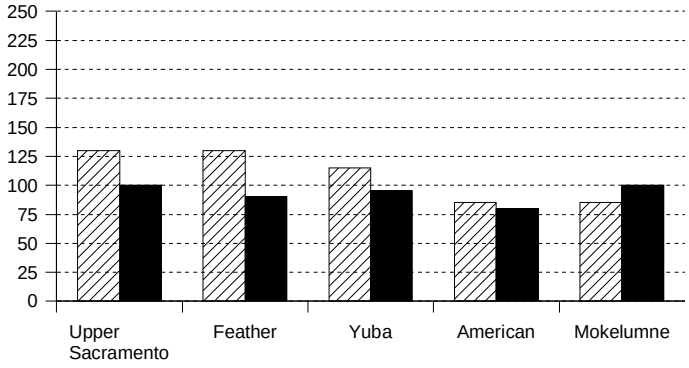
Water Content in % of April 1 Average



SNOWPACK- First of the month measurements made at 69 snow courses indicate an area wide snow water equivalent of 24.8 inches. This is 125 percent of the February 1 average and 80 percent of the seasonal (April 1) average. Last year at this time the pack was holding 21 inches of water.

Precipitation

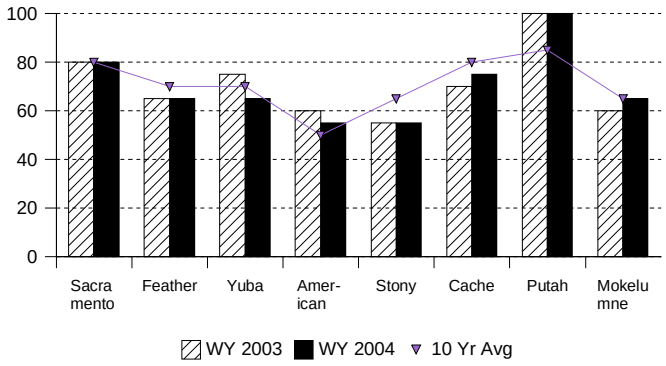
October 1 to date in % of Average



PRECIPITATION - Seasonal precipitation (October 1 through the end of last month) on this area was 95 percent of normal. Precipitation last month was about 55 percent of the monthly average. Seasonal precipitation at this time last year stood at 120 percent of normal.

Reservoir Storage

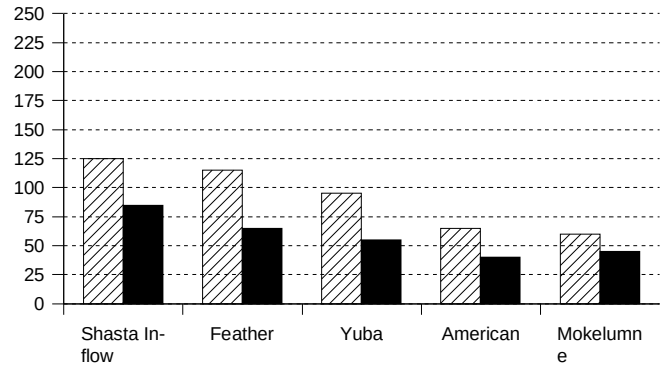
Contents of major reservoirs in % of capacity



RESERVOIR STORAGE- First of the month storage in 43 reservoirs was 11.6 million acre-feet which is 110 percent of average. About 70 percent of available capacity was being used. Storage in these reservoirs at this time last year was 110 percent of average.

Runoff

October 1 to date in % of average

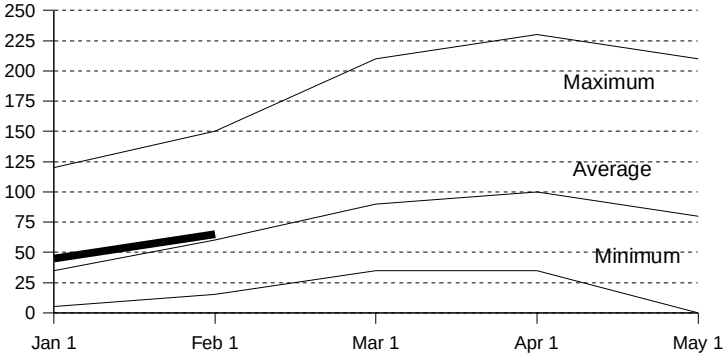


RUNOFF - Seasonal runoff of streams draining the area totaled 4.5 million acre-feet which is 75 percent of average for this period. Last year, runoff for the same period was 120 percent of average.

The **Sacramento Region 40-30-30 Water Supply Index** is forecast to be 7.7 assuming median meteorological conditions for the remainder of the year. This classifies the year as "below normal" in the Sacramento Valley according to the State Water Resources Control Board.

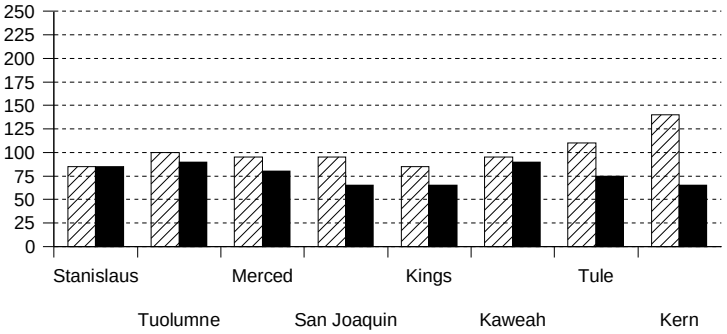
Snowpack Accumulation

Water Content in % of April 1 Average



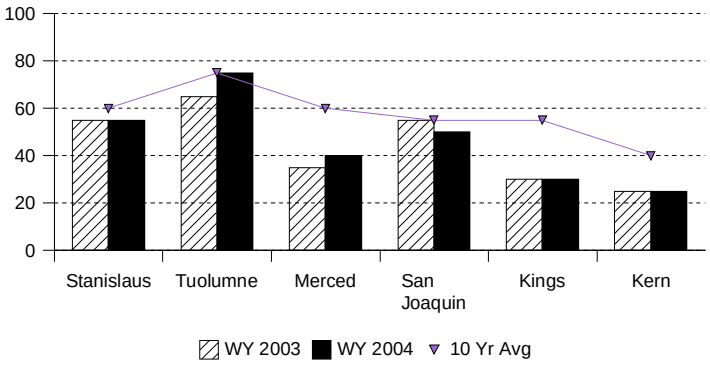
Precipitation

October 1 to date in % of Average



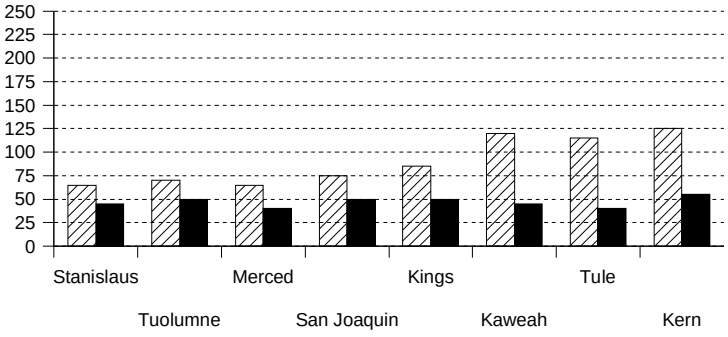
Reservoir Storage

Contents of major reservoirs in % of capacity



Runoff

October 1 to date in % of average



SAN JOAQUIN RIVER AND TULARE LAKE REGIONS

***SNOWPACK*-** First of the mbonth measurements made at 59 **San Joaquin River Region** snow courses indicate an area wide snow water equivalent of 22.3 inches. This is 110 percent of the February 1 average and 70 percent of seasonal (April 1) average. Last year at this time the pack was holding 19.2 inches of water.
At the same time 40 **Tulare Lake Region** snow courses indicated a basin-wide snow water equivalent of 14.8 inches which is 100 percent of the average for February 1 and 60 percent of the seasonal average. Last year at this time the basin was holding 12.2 inches of water.

PRECIPITATION - Seasonal precipitation (October 1 through the end of last month) on the **San Joaquin Region** was 85 percent of normal. Precipitation last month was about 50 percent of the monthly average. Seasonal precipitation at this time last year stood at 95 percent of normal.
Seasonal precipitation on the **Tulare Lake Region** was 75 percent of normal. Precipitation last month was about 40 percent of the monthly average. Seasonal precipitation at this time last year stood at 100 percent of normal.

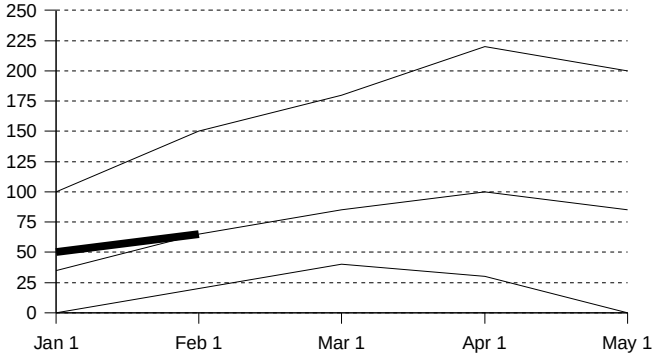
RESERVOIR STORAGE- First of the month storage in 34 **San Joaquin Region** reservoirs was 7.1 million acre-feet which is 105 percent of average. About 60 percent of available capacity was being used. Storage in these reservoirs at this time last year was 100 percent of average.
First of the month storage in 6 **Tulare Lake Region** reservoirs was 525 thousand acre-feet which is 70 percent of average and about 25 percent of available capacity. Storage in these reservoirs at this time last year was 70 percent of average.

RUNOFF- Seasonal runoff of streams draining the **San Joaquin Region** totaled 548 thousand acre-feet which is 45 percent of average for this period. Last year, runoff for the same period was 65 percent of average. Seasonal runoff of streams draining the **Tulare Lake Basin** totaled 216 thousand acre-feet which is 50 percent of average for this period. Last year runoff for this same period was 105 percent of average.

The **San Joaquin Region 60-20-20 Water Supply Index** is forecast to be 2.7 assuming median meteorological conditions. This classifies the year as "below normal" in the San Joaquin Region according to the State Water Resources Control Board.

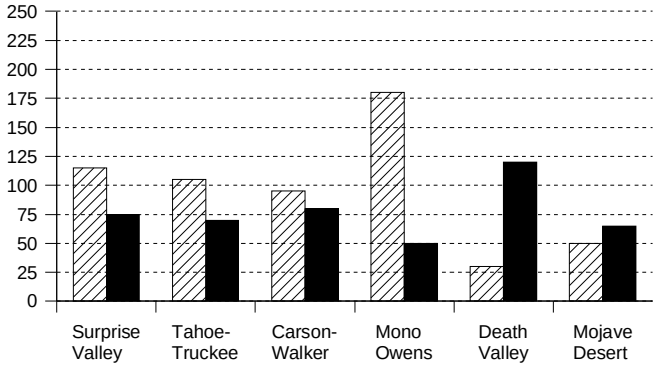
Snowpack Accumulation

Water Content in % of April 1 Average



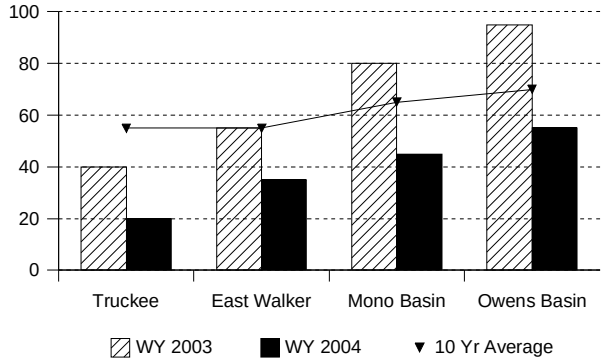
Precipitation

October 1 to date in % of Average



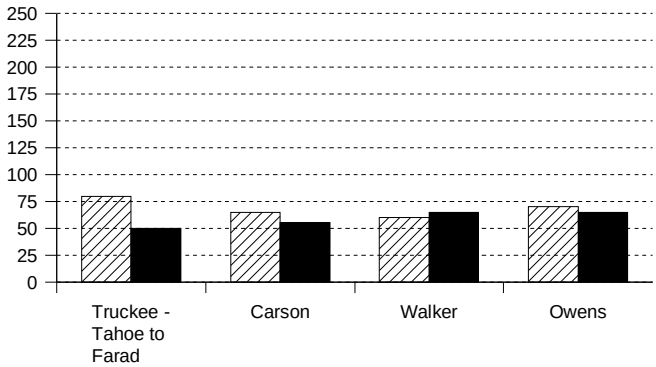
Reservoir Storage

Contents of major reservoirs in % of capacity



Runoff

October 1 to date in % of average



NORTH AND SOUTH LAHONTAN REGIONS

SNOWPACK- First of the month measurements made at 12 **North Lahontan snow** courses indicate an area wide snow water equivalent of 14.9 inches. This is 110 percent of the February 1 average and 70 percent of seasonal (April 1) average. Last year at this time the pack was holding 15.8 inches of water. At the same time 19 **South Lahontan Region** snow courses indicated a basin-wide snow water equivalent of 12.1 inches which is 100 percent of the average for February 1 and 60 percent of the seasonal average. Last year at this time the basin was holding 12.7 inches of water.

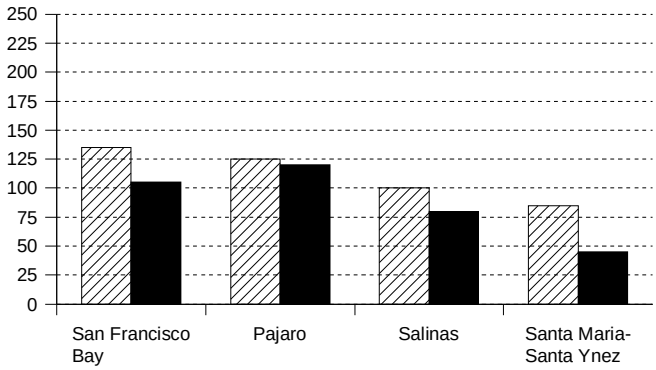
PRECIPITATION - Seasonal precipitation (October 1 through the end of last month) on the **North Lahontan Region** was 75 percent of normal. Precipitation last month was about 35 percent of the monthly average. Seasonal precipitation at this time last year stood at 105 percent of normal.
Seasonal precipitation on the **South Lahontan Region** was 80 percent of normal. Precipitation last month was about 25 percent of the monthly average. Seasonal precipitation at this time last year stood at 85 percent of normal.

RESERVOIR STORAGE- First of the month storage in 5 **North Lahontan** reservoirs was 204 thousand acre-feet which is 35 percent of average. About 20 percent of available capacity was being used. Storage in these reservoirs at this time last year was 40 percent of average. Lake Tahoe was 0.35 foot above its natural rim on February 1.
First of the month storage in 8 **South Lahontan** reservoirs was 247 thousand acre-feet which is 95 percent of average and about 60 percent of available capacity. Storage in these reservoirs at this time last year was 95 percent of average.

RUNOFF- Seasonal runoff of streams draining the **North Lahontan Region** totaled 88 thousand acre-feet which is 55 percent of average for this period. Last year, runoff for the same period was 70 percent of average.
Seasonal runoff of the Owens River in the **South Lahontan Region** totaled 29 thousand acre-feet which is 65 percent of average for this period. Last year runoff for this same period was 70 percent of average.

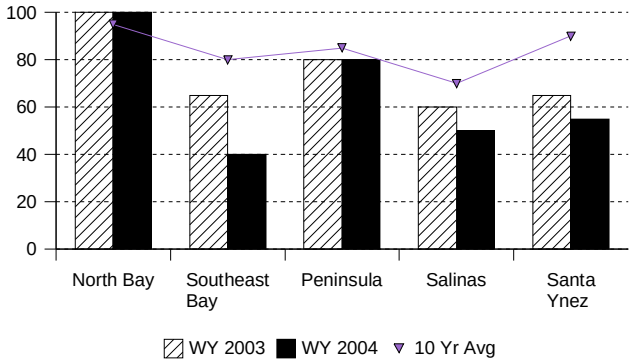
Precipitation

October 1 to date in % of Average



Reservoir Storage

Contents of major reservoirs in % of capacity



Runoff

October 1 to date in % of average

SAN FRANCISCO BAY AND CENTRAL COAST REGIONS

PRECIPITATION - Seasonal precipitation (October 1 through the end of last month) on the **San Francisco Bay Region** was 105 percent of normal. Precipitation last month was about 65 percent of the monthly average. Seasonal precipitation at this time last year stood at 135 percent of normal.
Seasonal precipitation on the **Central Coast Region** was 85 percent of normal. Precipitation last month was about 50 percent of the monthly average. Seasonal precipitation at this time last year stood at 110 percent of normal.

RESERVOIR STORAGE- First of the month storage in 18 **San Francisco Bay Region** reservoirs was 313 thousand acre-feet which is 90 percent of average. About 55 percent of available capacity was being used. Storage in these reservoirs at this time last year was 105 percent of average.
First of the month storage in 6 **Central Coast Region** reservoirs was 492 thousand acre-feet which is 85 percent of average and about 50 percent of available capacity. Storage in these reservoirs at this time last year was 105 percent of average.

RUNOFF- Seasonal runoff of the Napa River in the **San Francisco Bay Region** totaled 30 thousand acre-feet which is 85 percent of average for this period. Last year, runoff for the same period was 165 percent of average.
Seasonal runoff of streams draining the **Central Coast Region** totaled 42 thousand acre-feet which is 35 percent of average for this period. Last year runoff for this same period was 130 percent of average.

SOUTH COAST REGION

PRECIPITATION - October through January (seasonal) precipitation on the **South Coast Region** was 40 percent of normal. January precipitation was 20 percent of the monthly average. Seasonal precipitation at this time last year was 65 percent of normal. Seasonal precipitation on the **Colorado River-Desert Region** was 30 percent of normal. Last year seasonal precipitation on the **Colorado River-Desert Region** was 15 percent of normal. Precipitation in January was about 15 percent of average.

RESERVOIR STORAGE - February 1 storage in 29 major **South Coast Region** reservoirs was 1.2 million acre-feet or 85 percent of average. About 60 percent of available capacity was being used. Storage in these reservoirs at this time last year was 80 percent of average. On February 1 combined storage in Lakes Powell, Mead, Mohave and Havasu was about 28 million acre-feet or about 70 percent of average. About 55 percent of available capacity was in use. Last year at this time, these reservoirs were storing 75 percent of average.

RUNOFF - Seasonal runoff from selected **South Coast Region** streams totaled about 4 thousand acre-feet which is 25 percent of average. Seasonal runoff from these streams last year was 30 percent of average.

COLORADO RIVER

The April -July inflow to Lake Powell is forecast to be 6.8 million acre-feet, which is 86 percent of average. The February 1 snowpack in the Colorado River basin above Lake Powell was 95 percent of average, lowest in the Upper Colorado at 80 percent and highest in the San Juan at 110 percent.

CENTRAL VALLEY PROJECT

As of January 31, 2004, CVP storage was 8.3 million acre-feet, which is the same as compared to one year ago and is approximately 115% of normal for that date. The Bureau of Reclamation announced the 2004 initial water supply outlook for the CVP contractors on January 23, 2004. Based on a conservative water supply forecast prepared from information available January 1, 2004, and a water year inflow into Shasta Reservoir of 4.4 million acre-feet, CVP water supplies were: Agricultural contractors North of Delta 60% and South of Delta 60%; Urban contractors North of Delta 85% and South of Delta 85%; Sacramento River water rights and San Joaquin Exchange Contractors 100%; Wildlife Refuges 100%; Friant Contractors 75% of Class 1. Official allocations will be announced in mid-February. The forecast of CVP operations is available on the Mid-Pacific Region's website at www.mp.usbr.gov.

STATE WATER PROJECT

Total storage in the major SWP reservoirs was about 3.94 MAF on January 31, 2004, compared with 3.42 MAF at this time in 2003. On January 31 storage at Lake Oroville was about 2.46 MAF as compared to about 2.19 MAF last year. The State's share of San Luis Reservoir storage at the end of January was 810 TAF, as compared to about 593 TAF at this time last year. The combined storage of SWP's southern reservoirs was about 662 TAF on January 31 as compared to 634 TAF at this time last year.

SWP water deliveries for January 2004 were about 175 TAF. This is a combination of project, transfer, and exchange waters. This was about 60 TAF more than January 2003. The SWP approved an initial allocation of 35% (1.45 TAF) on December 1, 2003. Due to wetter than average precipitation in December the Department increased its allocation on January 15, 2004 to 50% (2.06 MAF).

MAJOR WATER DISTRIBUTION PROJECTS

RESERVOIR STORAGE

(AVERAGES BASED ON 1951-2000 OR PERIOD RECORD)

RESERVOIR	CAPACITY 1,000 AF	AVERAGE STORAGE 1,000 AF	STORAGE AT END OF January 2003 1,000 AF	2004 1,000 AF	PERCENT AVERAGE	PERCENT CAPACITY
STATE WATER PROJECT						
Lake Oroville	3,538	2,441	2,153	2,459	101%	70%
San Luis Reservoir (SWP)	1,062	880	570	809	92%	76%
Lake Del Valle	77	31	36	29	96%	38%
Lake Silverwood	73	64	71	70	110%	97%
Pyramid Lake	171	163	164	165	102%	97%
Castaic Lake	324	251	280	302	120%	93%
Perris Lake	132	113	119	120	106%	91%
CENTRAL VALLEY PROJECT						
Trinity Lake	2,448	1,766	1,886	1,890	107%	77%
Lake Shasta	4,552	3,122	3,537	3,606	116%	79%
Whiskeytown Lake	241	204	205	205	101%	85%
Folsom Lake	977	514	601	554	108%	57%
New Melones Reservoir	2,420	1,358	1,405	1,377	101%	57%
Millerton Lake	520	338	361	319	94%	61%
San Luis Reservoir (CVP)	971	731	868	855	117%	88%
COLORADO RIVER PROJECT						
Lake Mead	26,159	20,586	16,854	15,434	75%	59%
Lake Powell	25,002	19,269	13,269	10,984	57%	44%
Lake Mohave	1,810	1,675	1,705	1,523	91%	84%
Lake Havasu	619	548	537	511	93%	82%
EAST BAY MUNICIPAL UTILITY DISTRICT						
Pardee Res	198	179	172	167	93%	84%
Camanche Reservoir	417	243	283	310	127%	74%
East Bay (4 res.)	147	127	127	124	98%	84%
CITY AND COUNTY OF SAN FRANCISCO						
Hetch-Hetchy Reservoir	360	155	239	248	160%	69%
Cherry Lake	268	120	192	225	188%	84%
Lake Eleanor	26	9	6	8	83%	30%
Souty Bay/Peninsula (4 res.)	225	161	149	122	76%	54%
CITY OF LOS ANGELES (D.W.P.)						
Lake Crowley	183	124	116	107	86%	58%
Grant Lake	48	28	21	25	89%	53%
Other Aqueduct Storage (6 res.)	83	75	66	50	67%	60%

TELEMETERED SNOW WATER EQUIVALENTS

February 1, 2004

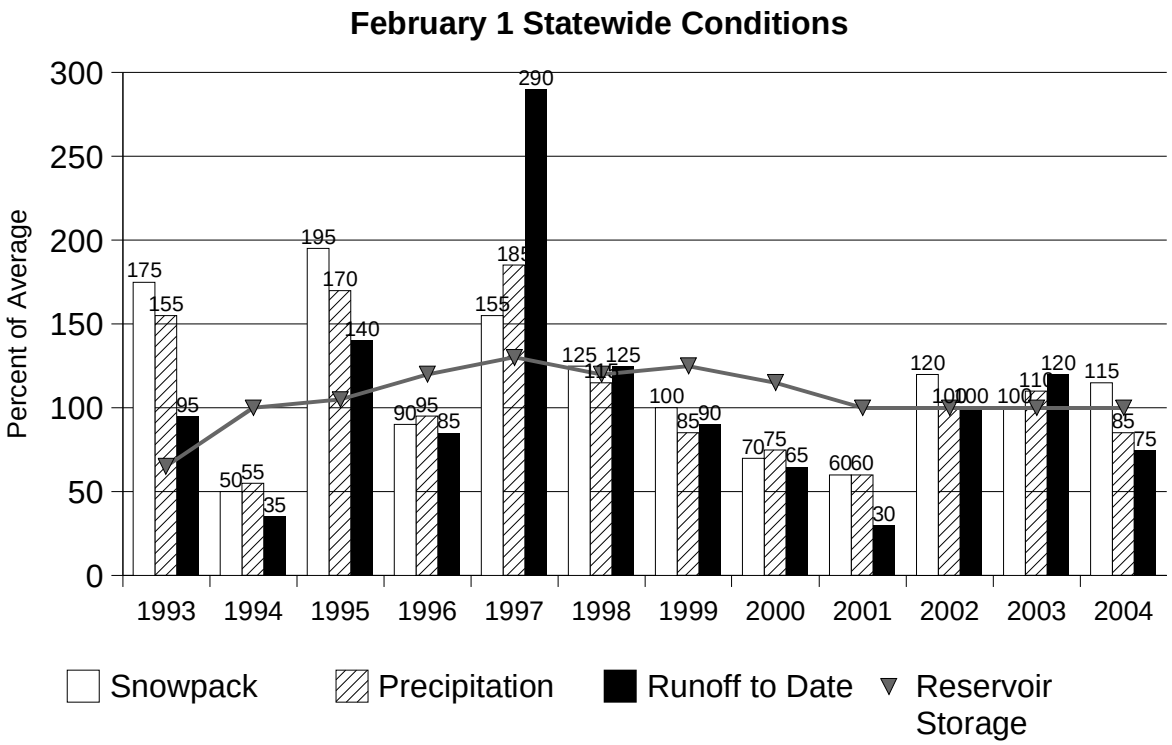
(AVERAGES BASED ON PERIOD RECORD)

BASIN NAME / STATION NAME	ELEV	APRIL 1 AVERAGE	INCHES OF WATER EQUIVALENT Feb 1	PERCENT OF AVERAGE	24 HRS PREVIOUS	1 WEEK PREVIOUS
TRINITY RIVER						
Peterson Flat	7150’	29.2	23.5	80.5	23.5	23.1
Red Rock Mountain	6700’	39.6	42.7	107.8	42.7	40.1
Bonanza King	6450’	40.5	28.1	69.3	28.1	27.4
Shimmy Lake	6400’	40.3	49.8	123.6	49.8	47.5
Middle Boulder 3	6200’	28.3	23.8	84.2	23.8	22.5
Highland Lakes	6030’	29.9	—	—	—	—
Scott Mountain	5900’	16.0	18.7	117.0	18.7	18.7
Mumbo Basin	5650’	22.4	26.7	119.0	26.5	25.2
Big Flat	5100’	15.8	17.8	112.9	17.7	15.9
SACRAMENTO RIVER						
Cedar Pass	7100’	18.1	16.0	88.4	16.0	14.7
Blacks Mountain	7050’	12.7	9.6	75.9	9.4	8.9
Sand Flat	6750’	42.4	30.3	71.6	30.3	29.4
Medicine Lake	6700’	32.6	24.7	75.8	24.7	23.6
Adin Mountain	6200’	13.6	12.7	93.4	12.7	11.9
Snow Mountain	5950’	27.0	25.8	95.6	25.6	24.6
Slate Creek	5700’	29.0	20.5	70.6	20.5	19.9
Stouts Meadow	5400’	36.0	29.2	81.2	29.0	26.4
FEATHER RIVER						
Kettle Rock	7300’	25.5	20.2	79.1	20.2	19.1
Grizzly Ridge	6900’	29.7	20.2	67.9	20.2	19.1
Pilot Peak	6800’	52.6	25.6	48.6	25.3	23.2
Gold Lake	6750’	36.5	25.3	69.4	25.3	23.9
Humbug	6500’	28.0	31.0	110.7	31.0	30.3
Rattlesnake	6100’	14.0	17.8	126.9	17.8	17.0
Bucks Lake	5750’	44.7	41.9	93.7	41.6	38.4
Four Trees	5150’	20.0	27.7	138.6	27.6	24.7
EEL RIVER						
Noel Spring	5100’	—	6.0	—	6.0	6.0
YUBA & AMERICAN RIVERS						
Lake Lois	8600’	39.5	—	—	—	—
Schneiders	8750’	34.5	28.5	82.6	28.5	27.3
Caples Lake	8000’	30.9	22.4	72.6	22.4	22.1
Alpha	7600’	35.9	23.0	64.1	23.0	21.9
Meadow Lake	7200’	55.5	37.5	67.5	37.5	34.5
Silver Lake	7100’	22.7	21.7	95.6	21.7	20.6
Central Sierra Snow Lab	6900’	33.6	27.0	80.4	27.0	25.1
Huysink	6600’	42.6	23.2	54.4	23.0	21.0
Van Vleck	6700’	35.9	—	—	—	—
Robbs Saddle	5900’	21.4	15.9	74.3	15.9	14.5
Greek Store	5600’	21.0	17.8	84.6	17.6	16.2
Blue Canyon	5280’	9.0	14.5	160.7	14.4	12.1
Robbs Powerhouse	5150’	5.2	12.8	246.2	12.8	12.0
MOKELUMNE & STANISLAUS RIVERS						
Deadman Creek	9250’	37.2	17.3	46.6	17.3	17.3
Highland Meadow	8700’	47.9	26.4	55.1	26.4	25.2
Gianelli Meadow	8400’	55.5	28.3	51.0	28.3	27.6
Lower Relief Valley	8100’	41.2	27.0	65.6	27.1	26.0
Blue Lakes	8000’	33.1	19.3	58.3	19.3	18.6
Mud Lake	7900’	44.9	34.6	77.1	34.6	33.0
Stanislaus Meadow	7750’	47.5	31.2	65.6	31.2	29.6
Bloods Creek	7200’	35.5	—	—	—	—
Black Springs	6500’	32.0	20.1	62.7	20.1	19.0
TUOLUMNE & MERCED RIVERS						
Tioga Pass Entrance	9945’	—	—	—	—	—
Dana Meadows	9800’	27.7	14.8	53.4	14.8	14.9
Slide Canyon	9200’	41.1	25.6	62.2	25.6	24.3
Lake Tenaya	8150’	33.1	19.1	57.7	19.2	18.9
Tuolumne Meadows	8600’	22.6	—	—	—	14.6
Horse Meadow	8400’	48.6	24.2	49.9	24.2	23.6
Ostrander Lake	8200’	34.8	18.3	52.5	18.3	17.6
Paradise Meadow	7650’	41.3	30.5	73.9	30.5	29.9
Gin Flat	7050’	34.2	—	—	—	—
Lower Kibbie Ridge	6700’	27.4	13.0	47.4	13.0	12.4

BASIN NAME / STATION NAME	ELEV	APRIL 1 AVERAGE	INCHES OF WATER EQUIVALENT Feb 1	PERCENT OF AVERAGE	24 HRS PREVIOUS	1 WEEK PREVIOUS
SAN JOAQUIN RIVER						
Volcanic Knob	10050’	30.1	16.4	54.4	16.4	16.4
Agnew Pass	9450’	32.3	—	—	—	—
Kaiser Point	9200’	37.8	19.9	52.5	19.9	19.4
Green Mountain	7900’	30.8	17.6	57.3	17.6	17.4
Tamarack Summit	7550’	30.5	15.6	51.1	15.6	15.2
Chilkoot Meadow	7150’	38.0	23.5	61.9	23.5	23.0
Huntington Lake	7000’	20.1	11.6	57.9	11.6	11.6
Graveyard Meadow	6900’	18.8	14.4	76.6	14.4	14.4
Poison Ridge	6900’	28.9	—	—	—	13.3
KINGS RIVER						
Bishop Pass	11200’	34.0	15.4	45.4	15.4	14.8
Charlotte Lake	10400’	27.5	22.1	80.5	22.1	21.7
State Lakes	10300’	29.0	19.4	66.9	19.4	18.5
Mitchell Meadow	9900’	32.9	—	—	—	—
Blackcap Basin	10300’	34.3	17.6	51.2	17.6	17.2
Upper Burnt Corral	9700’	34.6	17.1	49.5	17.1	17.1
West Woodchuck Meadow	9100’	32.8	18.9	57.6	18.9	18.2
Big Meadows	7600’	25.9	17.2	66.3	17.2	16.6
KAWEAH & TULE RIVERS						
Farewell Gap	9500’	34.5	22.0	63.8	22.0	21.7
Quaking Aspen	7200’	21.0	12.0	57.1	12.0	12.0
Giant Forest	6650’	10.0	7.0	70.0	7.0	7.1
KERN RIVER						
Upper Tyndall Creek	11400’	27.7	11.3	40.8	11.3	11.1
Crabtree Meadow	10700’	19.8	8.2	41.4	8.2	8.1
Chagoopa Plateau	10300’	21.8	11.8	53.9	11.8	11.8
Pascoes	9150’	24.9	21.6	86.7	21.6	21.3
Tunnel Guard Station	8900’	15.6	7.0	44.9	7.0	7.0
Wet Meadows	8950’	30.3	—	—	—	—
Casa Vieja Meadows	8300’	20.9	12.5	59.7	12.5	12.5
Beach Meadows	7650’	11.0	7.7	69.8	7.7	7.2
SURPRISE VALLEY AREA						
Dismal Swamp	7050’	29.2	23.1	79.1	23.1	21.5
TRUCKEE RIVER						
Mount Rose Ski Area	8900’	38.5	25.7	66.8	25.7	25.2
Independence Lake	8450’	41.4	29.4	71.0	29.4	28.0
Big Meadows	8700’	25.7	13.4	52.1	13.4	13.3
Squaw Valley	8200’	46.5	35.9	77.2	35.9	34.1
Independence Camp	7000’	21.8	10.9	50.0	10.9	10.4
Independence Creek	6500’	12.7	10.0	78.7	10.0	9.2
Truckee 2	6400’	14.3	12.9	90.2	12.9	12.5
LAKE TAHOE BASIN						
Heavenly Valley	8800’	28.1	15.6	55.5	15.6	15.2
Hagans Meadow	8000’	16.5	11.2	67.9	11.2	10.9
Marlette Lake	8000’	21.1	14.7	69.7	14.7	14.7
Echo Peak 5	7800’	39.5	31.2	79.0	31.2	29.4
Rubicon Peak 2	7500’	29.1	18.1	62.2	18.1	17.6
Tahoe City Cross	6750’	16.0	10.3	64.4	10.3	9.8
Ward Creek 3	6750’	39.4	25.6	65.0	25.6	24.2
Fallen Leaf Lake	6250’	7.0	7.1	101.4	7.1	6.9
CARSON RIVER						
Ebbetts Pass	8700’	38.8	23.6	60.8	23.6	23.2
Poison Flat	7900’	16.2	13.1	80.9	13.1	12.9
Monitor Pass	8350’	—	10.1	—	10.1	10.0
Spratt Creek	6150’	4.5	4.8	106.7	4.8	4.5
WALKER RIVER						
Leavitt Lake	9600’	—	39.1	—	39.1	36.7
Virginia Lakes	9300’	20.3	9.2	45.3	9.2	9.2
Lobdell Lake	9200’	17.3	9.0	52.0	9.0	9.0
Sonora Pass Bridge	8750’	26.0	16.0	61.5	16.0	15.5
Leavitt Meadows	7200’	8.0	8.2	102.5	8.2	8.0
OWENS RIVER/MONO LAKE						
Gem Pass	10750’	31.7	21.3	67.2	21.3	21.0
Sawmill	10200’	19.4	9.4	48.5	9.5	9.7
Cottonwood Lakes	10150’	11.6	7.8	67.2	7.8	7.8
Big Pine Creek	9800’	17.9	7.4	41.2	7.4	7.4
South Lake	9600’	16.0	9.6	60.0	9.6	9.6
Mammoth Pass	9300’	42.4	24.4	57.5	24.2	23.9
Rock Creek Lakes	10000’	14.0	6.7	48.0	6.7	6.7

NORMAL SNOWPACK ACCUMULATION EXPRESSED AS A PERCENT OF APRIL 1ST AVERAGE

AREA	JANUARY	FEBRUARY	MARCH	APRIL	MAY
Central Valley North	45%	70%	90%	100%	75%
Central Valley South	45%	65%	85%	100%	80%
North Coast	40%	60%	85%	100%	80%



SNOWLINES

The 72 Western Snow Conference (WSC) will be held in Vancouver, British Columbia 19-22 April 2004. and hosted by the North Pacific Region. For further information regarding the Western Snow Conference contact Frank Gehrke at 916-574-2635 or gridley@water.ca.gov.
Information is available on the web at http://www.westernsnowconference.org

Added to the forecasts in this bulletin is a water year forecast and range for the Trinity River. This forecast is used in the implementation of the Trinity River restoration project. Many of the environmental and Federal Energy Regulatory Commission standards are tied to forecasts published in this bulletin.

Depicted on this month's cover are two early snow surveyors Ed Steen and Floyd Grayson in 1923 at the Iron Creek gauging station , Upper San Joaquin River Basin. Photo courtesy of Gene Rose.

SNOWPACK-Snow data is a major index of spring and summer runoff from Sierra Nevada watersheds. April 1 data historically reflects the magnitude of the snowpack at or near the maximum seasonal accumulation. Averages are based on April 1 data for the period 1951-2000 (50 years, except for data sites established after 1951).

PRECIPITATION -Averages are based on April 1 data for the period 1951-2000 (50 years, except for data sites established after 1951).

RUNOFF AND FORECASTS -Runoff data and runoff forecasts are shown as unimpaired values. Unimpaired runoff represents the natural water production of a river basin, unaltered by upstream diversions, storage, or by export or import of water to or from other watersheds. Forecast of runoff assumes median conditions subsequent to the date of forecast.

Runoff probability ranges are statistically derived from historical data. The 80 percent probability range is comprised of the 90 percent exceedence level value and the 10 percent exceedence level value. This means that actual runoff should fall within the stated limits eight times out of ten.

Runoff averages for most streams are based on the period 1951-2000

Reservoir storage averages are based on the period from 1951(or beginning of operation) to 2000.

For more details contact California Cooperative Snow Surveys, P.O. Box 942836, Sacramento, CA 94236-0001, (916) 574-2635 or gridley@water.ca.gov.

INDICES OF WATER AVAILABILITY

The Sacramento River water year unimpaired runoff is the sum of: Sacramento River above Bend Bridge, Feather river Inflow to Lake Oroville, Yuba River near Smartville and American River Inflow to Folsom Lake.

The Sacramento Valley Water Year Hydrologic Classification (40-30-30 Index). The values 40-30-30 represent the percentage weight given to the three variables in the formula for the index. The first variable is the forecasted unimpaired runoff from April through July(40 percent). The second variable is the forecasted unimpaired runoff from October through March (30 Percent). The third variable is the previous year's index with a cap to account for required flood control releases during wet years. The basins used in this computation are those used in the Sacramento River water year unimpaired runoff.

The San Joaquin Valley Water Year Hydrologic Classification (60-20-20 Index). In a similar manner the values 60-20-20 represents the percentage weights on April through July runoff, October through March runoff and previous year's index. The San Joaquin River unimpaired runoff is the sum of: Stanislaus River Inflow to New Melones Lake, Tuolumne River Inflow to New Don Pedro Reservoir, Merced River Inflow to Lake McClure and San Joaquin River Inflow to Millerton Lake.

Runoff of the eight major river of the Sacramento and San Joaquin Regions is the sum of the runoff in the eight major rivers used in the two above indices.

State of California – The Resources Agency
DEPARTMENT OF WATER RESOURCES
P.O. Box 942836
Sacramento, CA 94236-0001

First Class